

Project Dashboard

Contaminants in seabirds in the Baffin Bay - Davis Strait region (149475)

Proposal Status: Conformity Determination Issued

Project Overview

Type of application: **New**

Proponent name:	Jennifer Provencher
Company:	Environment and Climate Change Canada

Schedule:

Start Date:	2021-06-01
End Date:	2021-09-30
Operation Type:	Annual

Project Description:

Currently in the Canadian Arctic there are low levels of shipping and oil exploration related activities as compared to many other regions. As offshore oil and gas activities might proceed in Baffin Bay and Davis Strait, there is a need to assess the current levels of oil-related contaminants exposure in marine species, and the potential effects. This includes the current levels of oil and gas -related contaminant exposure and effects in seabird species in the region. In addition to contaminants from oil and gas, there is also an interest in understanding more about how plastic pollution may affect seabird species. This project will focus on seabirds in the Baffin Bay - Davis Strait region to continue to build on our knowledge about how seabirds in the regions are affected by plastic pollution. Collections of murres and fulmars during the 2007/08 (International Polar Year) breeding seasons were used to examine the diet of these species in across Nunavut in relation to climate change. These studies showed that the murres and fulmars in the region were still mostly eating cold-water species (Arctic cod), but were eating some warm water species (capelin). We also found that 80% of the fulmars and 10% of the murres in 2007/08 had ingested marine plastics in their guts. We are working with partners at McGill University and Acadia University to update this work, and assess the current status of how climate change is potentially affecting seabirds in the region in relation to prey and plastics. To fulfill the research objectives on these anthropogenic contaminants we are proposing to work with local hunters that can collect approximately 30 murres, 30 fulmars, 30 guillemots, 30 kittiwakes and 30 eiders in the both the Qikiqtarjuaq and Pond Inlet regions near the colonies. We will do these collections in locations as consulted by the community, and the work will be carried out by hunters in the region (no travel is needed for the project). These birds will be frozen and shipped to Iqaluit to be dissected by the Nunavut Arctic College students. They will be assessed for their diet to follow up on work done over 10 years earlier. We will also use these birds to assess ingested plastics, which were also found during the 2007/08 studies. All birds were then dissected by students at the Nunavut Arctic College in Iqaluit. For each bird fresh tissue sample was collected and stored at -80°C in order to preserve the genetic material. For each species a tool (called a ToxChip) will be developed that will target parts of the genes that are known to be sensitive to exposure to oil-related contaminants. Levels of gene activity will be compared to the oil-related contaminant concentrations. This information will be used to assess how different species may be affected by oil-related contaminants.

Personnel:

Persons:	6
Days:	1

Project Map

List of all project geometries:

ID	Geometry	Location Name
7086	polygon	Pond Inlet area
7088	polygon	Qikiqtarjuaq

Planning Regions:

Qikiqtani

Kivalliq

Affected Areas and Land Types

Inuit Owned Surface Lands

Municipal

Established National or Territorial Park

Settlement Area

North Baffin Planning Region

Project Land Use and Authorizations**Project Land Use**

Marine-Based Activities

Scientific Research

Licensing AgenciesNIRB: [Screening Decision Report](#)GN-DOE: [Wildlife Research Permit](#)CWS: [National Wildlife Area permit under the Wildlife Area Regulations](#)CWS: [Scientific permit under the Migratory Bird Regulations](#)**Other Licensing Requirements**

No data found.

Material Use**Equipment**

Type	Quantity	Size	Use
small local boats	3	~15 feet	Up to 3 local boats and captains will be hired to collect seabirds around their home communities.

Fuel Use

Type	Container(s)	Capacity	UOM	Use
No records found.				

Hazardous Material and Chemical Use

Type	Container(s)	Capacity	UOM	Use
No records found.				

Water Consumption

Daily Amount (m³)	Retrieval Method	Retrieval Location
0		

Waste and Impacts**Environmental Impacts**

All waste and garbage will be taken back to town in the boats. Sewage and grey water will be disposed of in sumps located at least 100 m away from water bodies.

Waste Management

Waste Type	Quantity Generated	Treatment Method	Disposal Method
Greywater	1-2 l	NA	All waste and garbage will be taken back

to town in the
boats. Sewage
and grey
water will be
disposed of in
sumps located
at least 100 m
away from
water bodies.